

First Laureate Applied Research



- **Project title:** Matlail Fajr II (MF- II) Radar
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- **Executive Organization:** Aerospace Force I.R.G.C
- **Collaboration Organization:** Isfahan University of Technology (ICT Institute)

Abstract:

The MF-II is a mobile long range air surveillance radar in the VHF band and can be operated autonomously or used as part of an air defense system. It is an all-weather, full coherent and full solid state modern radar that can detect and track variety of air targets up to 480 km and also low observability threats.

The complete system is carried on only one trailer vehicle. Power is supplied by two diesel generators or industrial mains. The assembly/disassembly of the antenna and preparation for operation/ transportation requires less than 2 hours, by three people.

To achieve high level of redundancy, the radar has two independent channels that can operate simultaneously (for full operation) or alone (when one channel's RX/TX or Antenna path failed). In addition to range, azimuth and velocity of the target, the height of the target can also be measured. The radar's antenna consists of 8×4 32) horizontal Yagi element arrays. Two upper tiers assigned for upper channel and two lowers for Lower channel.

